

Description of the polarization effects in the muonic atoms within the framework of generalised quantum dynamics

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Abstract

The vacuum polarization effects in the muonic atoms are investigated within the framework of the generalized quantum dynamics. We show that the effect of nonlocality in time of the interaction of a muon with a nuclei caused by the polarization on the properties of the muonic atoms can be very significant. New possibilities that the generalized quantum dynamics opens in the theory of the muonic atoms are discussed.

<http://dx.doi.org/10.1117/12.675141>

Keywords

Muonic atoms, Nonlocal interactions, Vacuum polarization